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10/783,951	02/19/2004	Mark Stuart Vinton	DOL126	4809

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EXAMINER	
STOFFREGEN, JOEL	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/783,951	VINTON ET AL.	
	Examiner	Art Unit	
	Joel Stoffregen	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 12 February 2004.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-24 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-24 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 19 February 2007 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 08/12/2004, 08/17/2005.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1. This communication is in response to the original application filed on 02/19/2004.

Claims 1-24 are currently pending in this application. Claims 1, 6, 10, 15, 19 and 22 are independent claims.

Information Disclosure Statement

2. The examiner has considered the information disclosure statements (IDS) submitted on 08/12/2004 and 08/17/2005.

Claim Objections

3. Applicant is advised that should **claims 1, 2, 4, 6, 7, and 8** be found allowable, **claims 19-24** will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claims 1-24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Davidson, Patent No. US 5,394,473 ("DAVIDSON"), in view of Lee, Patent No. US 5,107,345 ("LEE"), and in further view of Holmes et al., *Speech Synthesis and Recognition* ("HOLMES").

6. Regarding **claim 1**, DAVIDSON teaches a method for generating an output signal that comprises:

receiving samples of a source signal having spectral content ("quantized input signal x(t)", DAVIDSON, column 20, lines 1-2);

applying a primary transform ("E-TDAC utilizes a transform function", DAVIDSON, column 19, line 13) to overlapping segments of the samples ("overlap the first set by one-half block length", DAVIDSON, column 20, lines 6-7) to generate a plurality of sets of spectral coefficients ("produces one of two sets of spectral coefficients", DAVIDSON, column 19, lines 39-40), wherein each set of spectral coefficients has time-domain aliasing artifacts ("produces a time-domain aliasing component", DAVIDSON, column 20, line 16) and represents the spectral content of a respective source signal segment for a set of frequencies ("each transform block represents one time domain signal sample block", DAVIDSON, column 19, lines 66-67);

obtaining a plurality of spectral coefficients from the plurality of sets of spectral coefficients ("when the appropriate number of data b bits representing transform coefficients have been buffered", DAVIDSON, column 32, lines 66-68) and assembling the plurality of spectral coefficients into one or more blocks of spectral coefficients ("that

data may be formatted", DAVIDSON, column 33, line 1), wherein the number of spectral coefficients that are assembled in each of the one or more blocks is adapted in response to a block-length control signal ("Dynamic-Frame Alignment with the E-TDAC transform is able to select any subblock length L", DAVIDSON, column 31, lines 44-45); and

assembling information representing the one or more sets of transform coefficients and the block-length control signal into the output signal ("assembles the quantized transform coefficients and signal sample block length for transmission or storage", DAVIDSON, column 32, lines 48-50).

However, DAVIDSON does not disclose:

obtaining a plurality of spectral coefficients representing the same frequency; and

applying a secondary transform to the one or more blocks of spectral coefficients to generate one or more sets of hybrid-transform coefficients, wherein the length of the secondary transform that is applied to each of the one or more blocks of spectral coefficients is adapted in response to the block-length control signal.

In the same field of signal processing, LEE discloses a system that groups coefficients of similar frequencies together. LEE teaches:

obtaining a plurality of spectral coefficients representing the same frequency ("scanning for coefficients of similar frequency", LEE, column 13, lines 61-62).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to group the coefficients of DAVIDSON in a manner as

taught by LEE in order to maximize the efficiency of coding (see LEE, column 13, lines 47-48).

However, the combination of DAVIDSON and LEE does not disclose:

applying a secondary transform to the one or more blocks of spectral coefficients to generate one or more sets of hybrid-transform coefficients, wherein the length of the secondary transform that is applied to each of the one or more blocks of spectral coefficients is adapted in response to the block-length control signal.

In the same field of signal processing, HOLMES discloses a transform that is applied to frequency coefficients. HOLMES teaches:

applying a secondary transform to the one or more blocks of spectral coefficients to generate one or more sets of hybrid-transform coefficients (see HOLMES, p. 163, equation 10.1, cepstral coefficients are obtained by applying a DCT transform to a spectral representation of a signal), wherein the length of the secondary transform that is applied to each of the one or more blocks of spectral coefficients is adapted in response to the block-length control signal (see HOLMES, p. 163, equation 10.1, the transform depends on N, where N represents the length of the spectral representation).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to perform the cepstral analysis of HOLMES on the frequency coefficients of DAVIDSON and LEE in order to separate the excitation components from the filter components (see HOLMES, p. 161, section 10.5).

7. Regarding **claim 2**, DAVIDSON and HOLMES further teach that the primary transform is a Modified Discrete Cosine Transform ("E-TDAC utilizes a transform function which is equivalent to the alternate application of a modified Discrete Cosine Transform", DAVIDSON, column 19, lines 13-15) and the secondary transform is a Discrete Cosine Transform that is applied to blocks of spectral coefficients that do not overlap one another ("the Fourier transform can be conveniently simplified to a discrete cosine transform", HOLMES, pp. 162-163, see equation 10.1).

8. Regarding **claim 3**, DAVIDSON further teaches:

generating a measure of similarity for spectral component magnitudes within a plurality of sets of spectral components ("transient detector monitors the input signal for rapid changes in amplitude", DAVDSON, column 22, lines 4-5); and

generating the block-length control signal in response to the measure of similarity (selects short signal sample blocks when sufficiently large changes in amplitude are detected", DAVDSON, column 22, lines 5-7).

9. Regarding **claim 4**, DAVIDSON further teaches:

analyzing samples of the source signal to generate a segment-length control signal ("transient detector monitors the input signal for rapid changes in amplitude", column 22, lines 4-5); and

applying an analysis window function to a segment of samples of the source signal, wherein shape or length of the analysis window function is adapted in response

to the segment-length control signal (selects short signal sample blocks when sufficiently large changes in amplitude are detected", DAVDSON, column 22, lines 5-7).

10. Regarding **claim 5**, DAVIDSON further teaches that the primary transform has a set of basis functions and the method comprises adapting the set of basis functions in response to the segment-length control signal (see DAVDSON, column 19, equations 1 and 2, the transforms are dependent on N, where N represents the signal sample block length).

11. Regarding **claim 6**, DAVIDSON teaches a method for generating an output signal that comprises:

receiving an input signal that represents spectral content of a source signal ("digitized and coded signal is received", DAVIDSON, column 33, lines 17-18);

obtaining one or more sets of transform coefficients and a block-length control signal from the input signal ("extracts the quantized transform coefficients and any side information", DAVIDSON, column 33, lines 21-22);

assembling the spectral coefficients into sets of spectral coefficients ("transform coefficients are converted into a linear form of representation", DAVIDSON, column 33, lines 23-24), wherein each set of spectral coefficients has time-domain aliasing artifacts ("produces a time-domain aliasing component", DAVIDSON, column 20, line 16) and represents the spectral content of a segment of the source signal for all frequencies in

the set of frequencies ("each transform block represents one time domain signal sample block", DAVIDSON, column 19, lines 66-67);

applying an inverse primary transform to the sets of spectral coefficients ("transform each set of frequency-domain transform coefficients", DAVIDSON, column 33, lines 34-35) to generate output signal segments that correspond to segments of the source signal ("block of time-domain signal samples", DAVIDSON, column 33, lines 36-37), wherein the inverse primary transform substantially cancels the time-domain aliasing artifacts ("this distortion is cancelled", column 34, lines 25-26).

However, DAVIDSON does not disclose:

applying an inverse secondary transform to the one or more sets of hybrid-transform coefficients to generate one or more blocks of spectral coefficients representing spectral content of the source signal for the same frequency in a set of frequencies, wherein the length of the inverse secondary transform that is applied to the sets of hybrid-transform coefficients is adapted in response to the block-length control signal;

In the same field of signal processing, HOLMES discloses a transform that is applied to cepstrum coefficients. HOLMES teaches:

applying an inverse secondary transform to the one or more sets of hybrid-transform coefficients to generate one or more blocks of spectral coefficients (see HOLMES, p. 162, FIG. 10.3(d), the frequency spectrum is reconstructed from a cepstrum), wherein the length of the inverse secondary transform that is applied to the sets of hybrid-transform coefficients is adapted in response to the block-length control

signal (see HOLMES, p. 163, equation 10.1, the transform depends on N, where N represents the length of the spectral representation);

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to perform the spectrum reconstruction of HOLMES on the coefficients of DAVIDSON in order to reconstruct the excitation components and the filter components (see HOLMES, p. 161, section 10.5).

However, the combination of DAVIDSON and HOLMES does not disclose that the one or more blocks of spectral coefficients represent spectral content of the source signal for the same frequency in a set of frequencies.

In the same field of signal processing, LEE discloses a system that groups coefficients of similar frequencies together. LEE teaches that one or more blocks of spectral coefficients represent spectral content of the source signal for the same frequency in a set of frequencies ("scanning for coefficients of similar frequency", LEE, column 13, lines 61-62).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to group the coefficients of DAVIDSON and HOLMES in a manner as taught by LEE in order to maximize the efficiency of coding (see LEE, column 13, lines 47-48).

12. Regarding **claim 7**, DAVIDSON and HOLMES further teach that the inverse primary transform is an Inverse Modified Discrete Cosine Transform ("inverse discrete transforms for E-TDAC used in an embodiment of the invention are alternating

applications of a modified inverse DCT", DAVIDSON, column 33, lines 39-42) and the inverse secondary transform is an Inverse Discrete Cosine Transform that is applied to sets of hybrid-transform coefficients representing blocks of spectral coefficients that do not overlap one another ("the Fourier transform can be conveniently simplified to a discrete cosine transform", HOLMES, pp. 162-163, see equation 10.1).

13. Regarding **claim 8**, DAVIDSON further teaches:

obtaining a segment-length control signal from the input signal ("side information passed by the encoder", DAVIDSON, column 33, lines 22-23); and

applying a synthesis window function to an output signal segment, wherein shape or length of the synthesis window function is adapted in response to the segment-length control signal ("signal sample block length is used to choose the appropriate synthesis window function", DAVIDSON, column 33, lines 27-28).

14. Regarding **claim 9**, DAVIDSON further teaches that the inverse primary transform has a set of basis functions and the method comprises adapting the set of basis functions in response to the segment-length control signal (see DAVIDSON, columns 33-34, equations 21 and 22, the transforms are dependent on N, where N represents the sample block length).

15. Regarding **claim 10**, DAVIDSON teaches an apparatus for generating an output signal that comprises:

(a) an input terminal ("time-domain signal input 102", DAVIDSON, column 15, line 39);

(b) an output terminal ("transmission path 122", DAVIDSON, column 15, line 58); and

(c) signal processing circuitry coupled to the input terminal and the output terminal (see DAVIDSON, FIG. 1a), wherein the signal processing circuitry is adapted to:

receive samples of a source signal having spectral content ("quantized input signal x(t)", DAVIDSON, column 20, lines 1-2);

apply a primary transform ("E-TDAC utilizes a transform function", DAVIDSON, column 19, line 13) to overlapping segments of the samples ("overlap the first set by one-half block length", DAVIDSON, column 20, lines 6-7) to generate a plurality of sets of spectral coefficients ("produces one of two sets of spectral coefficients", DAVIDSON, column 19, lines 39-40), wherein each set of spectral coefficients has time-domain aliasing artifacts ("produces a time-domain aliasing component", DAVIDSON, column 20, line 16) and represents the spectral content of a respective source signal segment for a set of frequencies ("each transform block represents one time domain signal sample block", DAVIDSON, column 19, lines 66-67);

obtain a plurality of spectral coefficients from the plurality of sets of spectral coefficients ("when the appropriate number of data b bits representing transform coefficients have been buffered", DAVIDSON, column 32, lines 66-68)

and assembling the plurality of spectral coefficients into one or more blocks of spectral coefficients ("that data may be formatted", DAVIDSON, column 33, line 1), wherein the number of spectral coefficients that are assembled in each of the one or more blocks is adapted in response to a block-length control signal ("Dynamic-Frame Alignment with the E-TDAC transform is able to select any subblock length L", DAVIDSON, column 31, lines 44-45); and

assemble information representing the one or more sets of transform coefficients and the block-length control signal into the output signal ("assembles the quantized transform coefficients and signal sample block length for transmission or storage", DAVIDSON, column 32, lines 48-50).

However, DAVIDSON does not disclose an apparatus to:

obtain a plurality of spectral coefficients representing the same frequency; and

apply a secondary transform to the one or more blocks of spectral coefficients to generate one or more sets of hybrid-transform coefficients, wherein the length of the secondary transform that is applied to each of the one or more blocks of spectral coefficients is adapted in response to the block-length control signal.

In the same field of signal processing, LEE discloses a system that groups coefficients of similar frequencies together. LEE teaches an apparatus to:

obtain a plurality of spectral coefficients representing the same frequency ("scanning for coefficients of similar frequency", LEE, column 13, lines 61-62).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to group the coefficients of DAVIDSON in a manner as

taught by LEE in order to maximize the efficiency of coding (see LEE, column 13, lines 47-48).

However, the combination of DAVIDSON and LEE does not disclose an apparatus to:

apply a secondary transform to the one or more blocks of spectral coefficients to generate one or more sets of hybrid-transform coefficients, wherein the length of the secondary transform that is applied to each of the one or more blocks of spectral coefficients is adapted in response to the block-length control signal.

In the same field of signal processing, HOLMES discloses a transform that is applied to frequency coefficients. HOLMES teaches an apparatus to:

apply a secondary transform to the one or more blocks of spectral coefficients to generate one or more sets of hybrid-transform coefficients (see HOLMES, p. 163, equation 10.1, cepstral coefficients are obtained by applying a DCT transform to a spectral representation of a signal), wherein the length of the secondary transform that is applied to each of the one or more blocks of spectral coefficients is adapted in response to the block-length control signal (see HOLMES, p. 163, equation 10.1, the transform depends on N, where N represents the length of the spectral representation).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to perform the cepstral analysis of HOLMES on the frequency coefficients of DAVIDSON and LEE in order to separate the excitation components from the filter components (see HOLMES, p. 161, section 10.5).

16. Regarding **claim 11**, DAVIDSON and HOLMES further teach that the primary transform is a Modified Discrete Cosine Transform ("E-TDAC utilizes a transform function which is equivalent to the alternate application of a modified Discrete Cosine Transform", DAVIDSON, column 19, lines 13-15) and the secondary transform is a Discrete Cosine Transform that is applied to blocks of spectral coefficients that do not overlap one another ("the Fourier transform can be conveniently simplified to a discrete cosine transform", HOLMES, pp. 162-163, see equation 10.1).

17. Regarding **claim 12**, DAVIDSON further teaches that the signal processing circuitry is adapted to:

generate a measure of similarity for spectral component magnitudes within a plurality of sets of spectral components ("transient detector monitors the input signal for rapid changes in amplitude", DAVDSON, column 22, lines 4-5); and

generate the block-length control signal in response to the measure of similarity (selects short signal sample blocks when sufficiently large changes in amplitude are detected", DAVDSON, column 22, lines 5-7).

18. Regarding **claim 13**, DAVIDSON further teaches that the signal processing circuitry is adapted to:

analyze samples of the source signal to generate a segment-length control signal ("transient detector monitors the input signal for rapid changes in amplitude", column 22, lines 4-5); and

apply an analysis window function to a segment of samples of the source signal, wherein shape or length of the analysis window function is adapted in response to the segment-length control signal (selects short signal sample blocks when sufficiently large changes in amplitude are detected", DAVDSON, column 22, lines 5-7).

19. Regarding **claim 14**, DAVIDSON further teaches that the primary transform has a set of basis functions and the method comprises adapting the set of basis functions in response to the segment-length control signal (see DAVDSON, column 19, equations 1 and 2, the transforms are dependent on N, where N represents the signal sample block length).

20. Regarding **claim 15**, DAVIDSON teaches an apparatus for generating an output signal that comprises:

(a) an input terminal ("signal input 132", DAVIDSON, column 15, line 62);

(b) an output terminal ("signal output 150", DAVIDSON, column 16, line 10); and

(c) signal processing circuitry coupled to the input terminal and the output terminal (see DAVIDSON, FIG. 1b), wherein the signal processing circuitry is adapted to:

receive an input signal that represents spectral content of a source signal ("digitized and coded signal is received", DAVIDSON, column 33, lines 17-18);

obtain one or more sets of transform coefficients and a block-length control signal from the input signal ("extracts the quantized transform coefficients and any side information", DAVIDSON, column 33, lines 21-22);

assemble the spectral coefficients into sets of spectral coefficients ("transform coefficients are converted into a linear form of representation", DAVIDSON, column 33, lines 23-24), wherein each set of spectral coefficients has time-domain aliasing artifacts ("produces a time-domain aliasing component", DAVIDSON, column 20, line 16) and represents the spectral content of a segment of the source signal for all frequencies in the set of frequencies ("each transform block represents one time domain signal sample block", DAVIDSON, column 19, lines 66-67);

apply an inverse primary transform to the sets of spectral coefficients ("transform each set of frequency-domain transform coefficients", DAVIDSON, column 33, lines 34-35) to generate output signal segments that correspond to segments of the source signal ("block of time-domain signal samples", DAVIDSON, column 33, lines 36-37), wherein the inverse primary transform substantially cancels the time-domain aliasing artifacts ("this distortion is cancelled", column 34, lines 25-26).

However, DAVIDSON does not disclose an apparatus to:

apply an inverse secondary transform to the one or more sets of hybrid-transform coefficients to generate one or more blocks of spectral coefficients representing spectral content of the source signal for the same frequency in a set of frequencies, wherein the length of the inverse secondary transform that is applied to the

sets of hybrid-transform coefficients is adapted in response to the block-length control signal;

In the same field of signal processing, HOLMES discloses a transform that is applied to cepstrum coefficients. HOLMES teaches an apparatus to:

apply an inverse secondary transform to the one or more sets of hybrid-transform coefficients to generate one or more blocks of spectral coefficients (see HOLMES, p. 162, FIG. 10.3(d), the frequency spectrum is reconstructed from a cepstrum), wherein the length of the inverse secondary transform that is applied to the sets of hybrid-transform coefficients is adapted in response to the block-length control signal (see HOLMES, p. 163, equation 10.1, the transform depends on N, where N represents the length of the spectral representation);

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to perform the spectrum reconstruction of HOLMES on the coefficients of DAVIDSON in order to reconstruct the excitation components and the filter components (see HOLMES, p. 161, section 10.5).

However, the combination of DAVIDSON and HOLMES does not disclose that the one or more blocks of spectral coefficients represent spectral content of the source signal for the same frequency in a set of frequencies.

In the same field of signal processing, LEE discloses a system that groups coefficients of similar frequencies together. LEE teaches that one or more blocks of spectral coefficients represent spectral content of the source signal for the same

frequency in a set of frequencies ("scanning for coefficients of similar frequency", LEE, column 13, lines 61-62).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to group the coefficients of DAVIDSON and HOLMES in a manner as taught by LEE in order to maximize the efficiency of coding (see LEE, column 13, lines 47-48).

21. Regarding **claim 16**, DAVIDSON and HOLMES further teach that the inverse primary transform is an Inverse Modified Discrete Cosine Transform ("inverse discrete transforms for E-TDAC used in an embodiment of the invention are alternating applications of a modified inverse DCT", DAVIDSON, column 33, lines 39-42) and the inverse secondary transform is an Inverse Discrete Cosine Transform that is applied to sets of hybrid-transform coefficients representing blocks of spectral coefficients that do not overlap one another ("the Fourier transform can be conveniently simplified to a discrete cosine transform", HOLMES, pp. 162-163, see equation 10.1).

22. Regarding **claim 17**, DAVIDSON further teaches that the signal processing circuitry is adapted to:

obtain a segment-length control signal from the input signal ("side information passed by the encoder", DAVIDSON, column 33, lines 22-23); and

apply a synthesis window function to an output signal segment, wherein shape or length of the synthesis window function is adapted in response to the segment-length

control signal ("signal sample block length is used to choose the appropriate synthesis window function", DAVIDSON, column 33, lines 27-28).

23. Regarding **claim 18**, DAVIDSON further teaches that the inverse primary transform has a set of basis functions and the method comprises adapting the set of basis functions in response to the segment-length control signal (see DAVIDSON, columns 33-34, equations 21 and 22, the transforms are dependent on N, where N represents the sample block length).

24. Regarding **claim 19**, the rejection is based on the same reason described for claim 1, because the claim recites the same or similar limitation(s) as claim 1.

25. Regarding **claim 20**, the rejection is based on the same reason described for claim 2, because the claim recites the same or similar limitation(s) as claim 2.

26. Regarding **claim 21**, the rejection is based on the same reason described for claim 4, because the claim recites the same or similar limitation(s) as claim 4.

27. Regarding **claim 22**, the rejection is based on the same reason described for claim 6, because the claim recites the same or similar limitation(s) as claim 6.

28. Regarding **claim 23**, the rejection is based on the same reason described for claim 7, because the claim recites the same or similar limitation(s) as claim 7.

29. Regarding **claim 24**, the rejection is based on the same reason described for claim 8, because the claim recites the same or similar limitation(s) as claim 8.

Conclusion

30. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. A list of the pertinent prior art can be found on the included form PTO-892 Notice of References Cited.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joel Stoffregen whose telephone number is (571) 270-1454. The examiner can normally be reached on Monday - Friday, 9:00 a.m. - 6:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JS

Patrick N. Edouard

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